

FOR NATIONAL PHASE SUBMISSION

2

CLAIM AMENDMENTS

WHAT IS CLAIMED IS:

This listing of the claims will replace all prior versions, and listing, of claims in the application:

1. (CURRENTLY AMENDED) A method for monitoring the operability of an injection system of an internal combustion engine, comprising a pressure accumulator, an injection valve connected to the pressure accumulator, a controllable fuel supply system which delivers fuel to the pressure accumulator, ~~a pressure sensor which is connected to the pressure accumulator~~ the method comprising the steps of:and

- measuring the pressure in the pressure accumulator by a pressure sensor coupled with the pressure accumulator,

- feeding a control unit to which the measured pressure value ~~in the pressure accumulator is fed to a control unit; via the pressure sensor and which~~

- controlling ~~controls~~ the quantity of fuel delivered by the injection valve and supplied from the fuel supply system as a function of operating parameters of the internal combustion engine,

~~wherein--~~ varying the quantity of fuel delivered by the injection valve ~~is varied,~~

- measuring the a resulting pressure then obtaining being ~~measured, comparing the resulting pressure obtaining being compared~~ with a setpoint pressure for the given operating conditions, and

- detecting a malfunction source ~~being detected~~ depending on the deviation of the measured resulting pressure from the comparison value and if the measured resulting pressure is below the setpoint value.

FOR NATIONAL PHASE SUBMISSION

3

2. (CURRENTLY AMENDED) The method ~~as claimed in~~according to claim 1, ~~characterized in that~~wherein, if the injection quantity changes, ~~and if~~ the pressure is below setpoint in the pressure accumulator, and in case of an approximately constant pressure ~~obtains~~ in the pressure accumulator, a pressure valve connected to the pressure accumulator ~~and~~ which cannot set the desired pressure is detected as the source of the fault.

3. (CURRENTLY AMENDED) The method ~~as claimed in~~according to claim 1, ~~characterized in that~~wherein, if the injection quantity changes ~~and~~, if the pressure is below setpoint in the pressure accumulator, and if the pressure in the pressure accumulator changes contrary to the change in the injection quantity, the fuel supply system which does not supply sufficient fuel is detected as the source of the fault.

4. (CURRENTLY AMENDED) The method according to claim 1, wherein, as claimed in one of the claims 1 to 3, characterized in that the pressure is measured over a measuring period of 1 second and the time response of the pressure during the measuring period is compared with a setpoint response.

5. (CURRENTLY AMENDED) The method according to claim 1, wherein~~as claimed in one of claims 1 to 3, characterized in that~~, depending on the fault detected, an appropriate emergency program for control by the control unit is used, wherein appropriate emergency programs being available to the control unit for the various malfunctions.

FOR NATIONAL PHASE SUBMISSION

4

6. **(NEW)** A method for monitoring the operability of an injection system of an internal combustion engine, comprising the steps of:

- measuring the pressure in a pressure accumulator by a pressure sensor,
- controlling the quantity of fuel delivered by an injection valve and supplied from a fuel supply system as a function of operating parameters of the internal combustion engine,
- varying the quantity of fuel delivered by the injection valve,
- measuring a resulting pressure,
- comparing the resulting pressure with a setpoint pressure for the given operating conditions, and
- detecting a malfunction source depending on the resulting pressure and on the deviation of the resulting pressure from the comparison value.

7. **(NEW)** The method according to claim 6, wherein, if the injection quantity changes, if the pressure is below setpoint in the pressure accumulator, and in case of an approximately constant pressure in the pressure accumulator, a pressure valve connected to the pressure accumulator is detected as the source of the fault.

8. **(NEW)** The method according to claim 6, wherein, if the injection quantity changes, if the pressure is below setpoint in the pressure accumulator, and if the pressure in the pressure accumulator changes contrary to the change in the injection quantity, the fuel supply system is detected as the source of the fault.

FOR NATIONAL PHASE SUBMISSION

5

9. **(NEW)** The method according to claim 6, wherein, the pressure is measured over a measuring period of 1 second and the time response of the pressure during the measuring period is compared with a setpoint response.

10. **(NEW)** The method according to claim 6, wherein, depending on the fault detected, an appropriate emergency program for control by the control unit is used, wherein appropriate emergency programs being available to the control unit for the various malfunctions.

11. **(NEW)** A system for monitoring the operability of an injection system of an internal combustion engine, comprising:

- a pressure accumulator,
- an injection valve connected to the pressure accumulator,
- a controllable fuel supply system which delivers fuel to the pressure accumulator,
- a pressure sensor coupled with the pressure accumulator,
- a control unit controlling the quantity of fuel delivered by an injection valve and supplied from a fuel supply system as a function of operating parameters of the internal combustion engine, and varying the quantity of fuel delivered by the injection valve,
- a comparator comparing the resulting pressure with a setpoint pressure for the given operating conditions, and detecting a malfunction source depending on the resulting pressure and on the deviation of the resulting pressure from the comparison value.

FOR NATIONAL PHASE SUBMISSION

6

12. **(NEW)** The system according to claim 11, wherein, if the injection quantity changes, if the pressure is below setpoint in the pressure accumulator, and in case of an approximately constant pressure in the pressure accumulator, a pressure valve connected to the pressure accumulator is detected as the source of the fault.

13. **(NEW)** The system according to claim 11, wherein, if the injection quantity changes, if the pressure is below setpoint in the pressure accumulator, and if the pressure in the pressure accumulator changes contrary to the change in the injection quantity, the fuel supply system is detected as the source of the fault.

14. **(NEW)** The system according to claim 11, wherein, the pressure is measured over a measuring period of 1 second and the time response of the pressure during the measuring period is compared with a setpoint response.

15. **(NEW)** The method according to claim 11, wherein, depending on the fault detected, an appropriate emergency program for control by the control unit is used, wherein appropriate emergency programs being available to the control unit for the various malfunctions.